UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,707	10/07/2005	Helmut D. Link	246472008500	6815

25227 7590 12/26/2007

MORRISON & FOERSTER LLP
1650 TYSONS BOULEVARD
SUITE 400
MCLEAN, VA 22102

EXAMINER	
SCHILLINGER, ANN M	

ART UNIT	PAPER NUMBER
3774	

MAIL DATE	DELIVERY MODE
12/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/552,707	LINK ET AL.	
	Examiner	Art Unit	
	Ann Schillinger	3774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-6 and 9-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-6 and 9-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/11/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 11, 2-6, 9, and 13 are rejected under 35 U.S.C. 103(e) as being unpatentable over Zubok et al. (U.S. Pub. No. 2004/0176850) in view of Errico et al. (U.S. Pub. No. 2003/0069586). Zubok et al. discloses the limitations of claim 11 as follows: an intervertebral joint prosthesis (100) configured for implantation into an intervertebral space between adjacent cervical vertebral bodies (paragraph 0014), which intervertebral space is delimited by end plates of the adjacent vertebral bodies whose end plate surfaces whose surfaces laterally adjacent to a substantially flat central area include edge zones that are more strongly curved than the substantially flat central area, wherein at least one of the prosthesis surfaces (200, 300) is configured to bear on a corresponding vertebral body end plate surface, the prosthesis surface having a lateral (lateral portions of prosthesis: 202, 302) extent reaching into the edge zones, of the corresponding end plate surface and having a convex curvature in a frontal plane greater than a curvature of the corresponding vertebral body end plate surface (curved outer edges of prosthesis, see Figures 1-5).

Regarding claims 11 and 13, Zubok et al. does not disclose prosthesis with a width that is at least 1.5 times and more than 1.63 times as great as the depth. Errico et al. teaches an

intervertebral prosthesis with a width that is at least 1.5 and more than 1.63 times as great as the depth in paragraph 0016 for the purpose of allowing the prosthesis to fit properly within a correspondingly dimensioned intervertebral space. In addition, Errico et al. indicates that the prosthesis may be given a plurality of width and depth combinations, to properly fit a particular patient. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make a prosthesis with a width that is at least 1.5 times and more than 1.63 times as great as the depth in order to allow the prosthesis to fit properly within a correspondingly dimensioned intervertebral space.

Zubok et al. discloses the limitations of claim 2 as follows: the prosthesis as claimed in claim 11, having a height (see Figure 1-5) in a caudo-cranial direction relative to an orientation of the prosthesis in an implanted position in portions of the prosthesis configured to engage the lateral edge zones approximately equal to a height of the intervertebral space at the location of the edge zones, and having a height in portions of the prosthesis configured to engage the central area greater than a height of the intervertebral space at the location of the central area (the height of the prosthesis allows it to contact the vertebral plates of the intervertebral space, see paragraph 0054, with a greater height at the central portion, via elements 210a, 210b, 310a, and 310b).

Zubok et al. discloses the limitations of claim 3 as follows: the prosthesis as claimed in claim 11 or 2, wherein the prosthesis surface is provided with elevations and depressions in the central area but not in the edge area (210a, 210b, 310a, and 310b).

Zubok et al. discloses the limitations of claim 4 as follows: the prosthesis as claimed in claim 11 or 2, wherein the prosthesis surface is toothed in the central area (210a, 210b, 310a, and 310b).

Zubok et al. discloses the limitations of claim 5 as follows: the prosthesis as claimed in claim 11 or 2, wherein an angle of inclination of a portion of a lower prosthesis surface that is configured to engage the edge zones of the end plate surfaces in the frontal plane relative to a main direction of extent of the prosthesis relative to an orientation of the prosthesis in an implanted position is at least 20 degrees (part of the lower surface of the prosthesis has an angle of at least 20 degrees, as shown in Figure 4 where element 310b forms such an angle).

Zubok et al. discloses the limitations of claim 6 as follows: the prosthesis as claimed in claim 11 or 2, wherein an angle of inclination of a portion of an upper prosthesis surface that is configured to engage the edge zones of the end plate surfaces relative to a main direction of extent of the prosthesis relative to an orientation of the prosthesis in an implanted position is at least 0 degrees (part of the upper surface of the prosthesis has an angle of at least 0 degrees, as shown in Figure 4 where element 210b forms such an angle).

Zubok et al. discloses the limitations of claim 9 as follows: the intervertebral joint prosthesis as claimed in claim 11 or 2, wherein the surface of at least one of its cover plates (200, 300), whose size is dimensioned to substantially utilize the naturally provided surface extent of the intervertebral space (paragraph 0023), has a central area (202, 302), which extends approximately parallel to the main plane of extent of the cover plate, and, adjoining this in the dorsolateral direction, a surface (206, 306) beveled relative to the central area.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zubok et al. in view of Michelson (U.S. Pat. No. 6,083,228). Zubok et al. discloses the invention substantially as claimed, however, Zubok et al. does not disclose an instrument set used to prepare the vertebral bodies to accommodate the prosthesis. Michelson teaches an intervertebral instrument set used to prepare the vertebral bodies to accommodate the prosthesis in col. 2, lines 12-47 and col. 7, lines 11-49 for the purpose of providing adequate space and support for the prosthesis. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an instrument set used to prepare the vertebral bodies to accommodate the prosthesis in order to provide adequate space and support for the prosthesis

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zubok et al. in view of Gerbec et al. (U.S. Pub. No. 2003/0130739). Zubok et al. discloses the invention substantially as claimed, however, Zubok et al. does not disclose a portion of the upper surface having an angle between 10 and 30 degrees. Gerbec et al. teaches an intervertebral implant where a portion of the upper surface has an angle between 10 and 30 degrees in paragraph 0100 for the purpose of facilitating the ease in the flexing of the upper support member. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make a portion of the upper surface having an angle between 10 and 30 degrees in order to facilitate the ease in the flexing of the upper support member.

Response to Arguments

In view of the amendments submitted on 10/3/2007, the 35 U.S.C. § 112 rejections are withdrawn.

Applicant's arguments filed 10/3/2007 have been fully considered but they are not persuasive. The Applicant contends that Errico et al. does not disclose the proper dimensions of depth described in claim 11. However, paragraph 0016 of Errico et al. describes potential measurements of width and depth for the spinal prosthesis. The width measurements describe the anterior to posterior "depth" dimensions claimed by the Applicant, and these measurements do meet the limitations set forth in the claims.

In addition, Errico et al. states that "for each artificial intervertebral disc to be implanted, a plurality of sizes of the artificial intervertebral disc would be available. That is, preferably, a plurality of the same type of artificial intervertebral disc would be available, each of the plurality having a respective width and depth dimension combination that allows it to fit within a correspondingly dimensioned intervertebral space." It has been held that it would have been obvious to one having ordinary skill in the art at the time the invention was made make an intervertebral prosthesis having these dimensions since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller,* 105 USPQ 233.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann Schillinger whose telephone number is (571) 272-6652. The examiner can normally be reached on Mon. thru Fri. 9 a.m. to 4 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Corrine McDermott can be reached on (571) 272-4754. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ann Schillinger
December 13, 2007

CORRINE McDERMOTT
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700